7/14/03

ALGEBRA VALIDATION TEST

GSBPP SUMMER 2003

Multiple choice: Choose the best answer for each of the following.

1. What will be the value of $100 amortized annually at 8% for 3 years?

   (a) $100 **(b)** $108 **(c)** $124 **(d)** $125.97 **(e)** none of these

2. Simplify: $\left(5t^2+6t-6\right)-\left(-t^3+5t^2+7t-6\right)$

   (a) t^3+10t^2-t-12 **(b)** $t^3+13t-12$ **(c)** t^3+13t **(d)** t^3-t **(e)** none of these

3. Simplify: $\frac{3x-6}{3}-\frac{2x+4}{2}$

   (a) 0 **(b)** -4 **(c)** -2x-4 **(d)** -2x **(e)** none of these

4. Solve for x: $x-\frac{1}{2}=\frac{1}{2}x+3$

   (a) 7 **(b)** $\frac{7}{3}$ **(c)** $\frac{5}{3}$ **(d)** 5 **(e)** none of these

5. Solve the inequality: $3x-5>3$

   (a) $x>\frac{2}{3}$ **(b)** $x>-\frac{2}{3}$ **(c)** $x>\frac{8}{3}$ **(d)** $x<\frac{8}{3}$ **(e)** none of these

6. What is the chance of throwing a total of 6 with two six-sided dice?

   (a) $\frac{1}{6}$ **(b)** $\frac{7}{36}$ **(c)** $\frac{5}{36}$ **(d)** $\frac{3}{36}$ **(e)** none of these

7. Solve for x: $|x+1|=5.$

   (a) 4 **(b)** -6 **(c)** 4 & -6 **(d)** -4 & 6 **(e)** none of these

8. 2y= 12x + 4 is the expression for a straight line. What is the value of the y intercept.

(a) 6 **(b)** 2 **(c)** 1/2 **(d)** 6 **(e)** none of these

9. If 2y = 12x + 4, what is the slope of y with respect to x?

(a) 6 **(b)** 12 **(c)** 4 **(d)** 2 **(e)** none of these

10. If $f(x) = x(1 - x)$, find $f(3)$.

(a) 3 **(b)** 6 **(c)** 2 **(d)** 12 **(e)** none of these

11. If 3y = 120 – 6x what is the x intercept for the graph of this line?

(a) 120 **(b)** -20 **(c)** 40 **(d)** 20 **(e)** none of these

12. Find the rate of change of y, when y= 30 + 4x, over the interval x =2 to x = 4

(a) -4 **(b)** 4 **(c)** 30 **(d)** 7.5 **(e)** none of these

13. Simplify: $\dfrac{12a^{\frac{1}{2}}b^{\frac{3}{2}}c^{-2}}{2a^{-\frac{1}{2}}b^{\frac{1}{2}}c^{1}}$.

(a) $\dfrac{6ab}{c^3}$ **(b)** $6b^2c$ **(c)** $\dfrac{6}{a\ b^2c}$ **(d)** $\dfrac{6b^2}{c^3}$ **(e)** none of these

14. If $y = e^4$ then ln y =

(a) 2 **(b)** ln4 **(c)** ln 2 **(d)** 4 **(e)** none of these

15. Find the sum: $\sum_{n=1}^{4} X_i^2$, where X_1=1, X_2=2, X_3=3, X_4=4,

(a) 10 **(b)** 100 **(c)** 30 **(d)** 14 **(e)** none of these

16. Find the values of x and y that jointly solve the following two equations:
2x – 4y = 2 and 3x + 2y = 19.

(a) x=5 ,y=2 **(b)** x=3, y=-2 **(c)** x=9, y=4 **(d)** x=2, y=5 **(e)** none of these

Answers:

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Answer	d	d	b	a	c	c	c	b	a	e	d	b	a	d	C	a